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10/597,500	07/22/2008	Nathalie Beziot	33901-355PUS	1952

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EXAMINER

D AGOSTA, STEPHEN M

ART UNIT	PAPER NUMBER
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2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,500	Applicant(s) BEZIOT ET AL.	
	Examiner Stephen M. D'Agosta	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Preliminary Amendment

1. Claims 1-7 were cancelled by preliminary amendment.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 8-20 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17 of copending Application No. 10/537395. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both recite managing resources in a wireless/cellular network whereby QoS is used along with priorities and Allocation Retention Priority parameter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims - 35 USC § 101

The claims are compliant with USC 101 requirements (eg. statutory apparatus(es) are defined as performing the method steps in claim 8.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10, 13 and 15-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Sebire and further in view of Haumont and Almgren.

As per **claims 8 and 15-16**, Sebire teaches a method for managing radio resources in a UMTS mobile communications network (Para's #1-5 discuss networking and QoS which inherently manages bandwidth/resources) comprising:

a core network and a radio access network for supporting a plurality of service requests sent by user equipment to the core network (figures 1 and 3, Para #25), each service being specified by parameters of the core network describing a quality of service required for said service requested (Para's #29-30 teach several services and data types such as Multimedia, voice, videophone, etc. ALSO audio/video downloading, streaming, data files, text/SMS, email, web, etc. and each would be identified/specified by a parameter. Also see Para's #33-37 which discusses the QoS for a service(es)), said method comprising a step of:

mapping said quality of service parameters of the core network with quality of service parameters of the radio access network and a step of sending to the radio access network via the core network a radio access bearer service request comprising

Art Unit: 2617

said quality of service parameters of the radio access network (Para #38 teaches mapping the end-to-end QoS requirements, eg. user to RAN to CN),

characterized in that defining a sub-parameter(s) of one of the quality of service parameters of the radio access network (Para #35 teaches several "sub-parameters" of the QoS such as data rate, delay, information loss, etc. and that "values are assigned to each characteristic for a given bearer service"),

but is silent on

a priority level being defined for the requested service by a priority level,

said mapping step is designed to determine a value for said priority level sub-parameter using an "Allocation Retention Priority" quality of service parameter of the core network and a value of a least one parameter of said quality of service parameters of the access network associated with the type of service.

Sebire does not specifically teach "priority" but QoS inherently prioritizes both users and data such that a balance can be struck between the two.

Haumont specifically teaches controlling QoS in a mobile (C5, L35 to C6, L17) network having RAN/Core components and using/mapping "priority" and "sub-parameters" (figure 3) to manage the packet flows:

Currently, a GPRS QoS profile contains five parameters: service precedence, delay class, reliability, and mean and peak bit rates. Service precedence defines some kind of **priority for the packets** belonging to a certain PDP context (i.e. which packets will be dropped in case of congestion). Delay class defines mean and maximum delays for the transfer of each data packet belonging to that context. Reliability in turn specifies whether acknowledged or unacknowledged services will be used at LLC (Logical Link Control) and RLC (Radio Link Control) layers. In addition, it specifies whether protected mode should be used in case of unacknowledged service, and whether the GPRS backbone should use TCP or UDP to transfer data packets belonging to the PDP context. Furthermore, these varying QoS parameters are

Art Unit: 2617

mapped to four SAPIs (Service Access Point Identifiers)
available at the LLC layer. (C5, L55-60)

Almgren teaches a wireless/mobile network with RAN/Core (fig 1-2 and 6-7) supporting end-to-end QoS (C2, L60 to C3, L2 and also C3, L25 to C4, L18), mapping of resources (C9, L12-25), priority (C11, L32-61) and use of Allocation Retention Parameter(s):

According to exemplary embodiments of the present invention, the application can provide a multiple alternative request comprising both data rates with reference to the video codec application. The resulting RAB request will also include two alternative RABs each with one guaranteed bit rate. The RAB request may also include other attributes, including a "cost" the user is willing to pay for this RAB. The RAB request may be assigned an allocation/retention priority value. As an example, a priority value of 2 may be treated as being more important than a priority value of 3 but less important than a priority value of 1. C14, L31-41

It would have been obvious to one skilled in the art at the time of the invention to modify Sebire, such that a priority level is defined for the requested service by a priority level AND said mapping step is designed to determine a value for said priority level sub-parameter using an "Allocation Retention Priority" quality of service parameter of the core network and a value of a least one parameter of said quality of service parameters of the access network associated with the type of service, to provide means for prioritizing requests/bandwidth as based on user needs and current network conditions.

As per **claim 9**, the combo teaches claim 8, characterized in that said at least one quality of service parameter of the access network associated with the type of service includes the "Traffic Class" parameter.

The examiner notes that the term "traffic class" can mean several different things, eg. it can be just the actual "type of traffic" such as voice, video, text, data, etc. OR it can mean a certain class/category to which the traffic can be grouped into such as time-delay sensitive or insensitive, etc. OR it can be a requirement/need for a certain amount of bandwidth/bit rate such as low rate, high rate, etc..

At least Sebire teaches support for several types of traffic to include voice, data, email, text/SMS, web, etc.. Haumont and Almgren further provide support for the type of traffic classification pertaining to QoS such as service precedence/priority, delay, reliability, data rate, information loss, etc..

As per **claim 10**, the combo teaches claim 9, characterized in that said at least one quality of service parameter of the access network associated with the type of service further includes the Traffic Handling Priority" parameter making it possible to prioritize interactive-type services in relation to eac other (Sebire teaches identifying the type of traffic such as voice, video, email, text/SMS, web, etc but does not teach an actual prioritization. Haumont and Almgren both teach prioritizing the traffic as based on various parameters such as priority, delay, reliability, etc.).

As per **claim 13**, the combo teaches claim 8, characterized in that, in the case where at least two radio access bearer services already active within the network are the subject, respectively, of a request for additional resources and where the resources required to satisfy said requests are available, said method includes a prioritization step for the allocation of resources, designed to determine, on the basis of the priority level associated with each of the bearer services, to which bearer services the additional resources will be allocated, on a priority basis (Haumont teaches service precedence which he defines as a "priority" of the user/traffic, hence any request for additional

Art Unit: 2617

resources/bandwidth will always be given to the user who has a higher priority. Similarly the concept of QoS inherently provides for a user hierarchy by which bandwidth is given out to the more important users first with remaining bandwidth given to less important users – note that bandwidth can also be prioritized on other factors as taught by the prior art to include delay, jitter, type of data, data loss/BER, etc).

Claims 11-12, 17 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Sebire/Haumont/Almgren and further in view of Spaling.

As per **claims 11 and 19**, the combo teaches of claim 8/16, **but is silent on** comprising a step for pre-empting resources at the access network level, said method being characterized in that said step for pre-empting resources is implemented when at least one new radio access bearer request is received by the access network, in the case where there are no more resources available or if the radio resources required to satisfy the quality of service required by the service requested are insufficient.

At least Spaling teaches blocking access to a user(s) (eg. pre-empting resources) when the network is congested/maxed:

For example, there might be an indication of an overload condition, a congestion situation, a rapidly increasing power situation, an interference limit, etc. If warranted, affirmative action may be taken by the radio network to reduce congestion by blocking admission attempts, reducing transmit power levels, or by taking some other action that results in a reduction of the third number. C7, L58-65

It would have been obvious to one skilled in the art at the time of the invention to modify the combo, such that it comprises a step for pre-empting resources at the access network level, said method being characterized in that said step for pre-empting resources is implemented when at least one new radio access bearer request is received by the access network, in the case where there are no more resources

Art Unit: 2617

available or if the radio resources required to satisfy the quality of service required by the service requested are insufficient, to provide means for allowing or blocking users access to resources as based on the current amount of bandwidth available.

As per **claims 12 and 17**, the combo teaches claim 8/16, **but is silent on** characterized in that said step for pre-empting resources at the access network level (UTRAN) is implemented when at least one request for additional resources is received, in order to respond to a change in the traffic on said network, in the case where there are no more resources available or if the radio resources required to satisfy the quality of service required by the requested service are insufficient.

At least Spaling teaches blocking access to a user(s) (eg. pre-empting resources) when the network is congested/maxed:

For example, there might be an indication of an overload condition, a congestion situation, a rapidly increasing power situation, an interference limit, etc. If warranted, affirmative action may be taken by the radio network to reduce congestion by blocking admission attempts, reducing transmit power levels, or by taking some other action that results in a reduction of the third number. C7, L58-65

The examiner notes that real-time resource allocation changes can occur (as based on user needs) and channels/bandwidth can be returned to the pool if/when a user discontinues use of the channel (eg. ends a call, etc). Hence if the network is fully maxed and a user currently using channel resource requests EVEN MORE bandwidth, then their request will be pre-empted as per Spaling's teachings as well (eg. there is no more available bandwidth hence new users will not be admitted and no current user can be given more bandwidth).

It would have been obvious to one skilled in the art at the time of the invention to modify the combo, such that said step for pre-empting resources at the access network level (UTRAN) is implemented when at least one request for additional resources is received, in order to respond to a change in the traffic on said network, in the case

where there are no more resources available or if the radio resources required to satisfy the quality of service required by the requested service are insufficient, to provide means for allowing or blocking users access to additional resources as based on the current amount of bandwidth available.

Claims 14 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Sebire/Haumont/Almgren and further in view of Hurme and Gilbert.

As per **claims 14 and 20**, the combo teaches claim 8/16, **but is silent on** characterized in that, in the case where at least two radio access bearer services already active within the network do not utilize the resources that have been allocated to them in an optimal manner, said prioritization step is desired to reduce the resources allocated to these bearer services, in an order defined by the priority level associated with each of said bearer services.

At least Hurme teaches dividing users into classes and prioritizing them as users (Abstract and background pages 1-2). He teaches detecting the availability of USED resources (eg. if more than a specific amount of resources are being used, for example 95% of the resources are in use or not, page 5, L28-35) and which group/class the subscriber belongs to (page 5, L28 thru page 6, L29). Hence if the resources aren't optimally used, eg. less than a 'threshold' amount, he can either borrow/steal from these currently-reserved resources OR find new resources OR block admission, etc..

Furthermore, Gilbert teaches dynamic resource allocation of data slots as based on an INITIAL and ACTUAL set of bandwidth parameters (see abstract). Hence one skilled can see that Gilbert inherently monitors and updates bandwidth allocation parameters/needs (Abstract) and can determine if a user(s) are under utilizing their allocation such that some/all of it can be reallocated to another user:

In one preferred embodiment of the present invention, channel efficiency and data bandwidth improvements are achieved by using bandwidth requirement parameters to monitor and update

Art Unit: 2617

the communication link time slot allocations. In accordance with the present invention, each communication session is preferably assigned both an "initial" and an "actual" set of bandwidth parameters. The initial set of bandwidth parameters can be established when the system is first installed. The actual set of bandwidth parameters are created and maintained by the system using the monitoring and updating technique of the present invention. Once the system learns about the exact nature of a communication session's bandwidth requirements it updates the initial values to accurately reflect the actual bandwidth requirements of the channel. (C5, L30-60)

It would have been obvious to one skilled in the art at the time of the invention to modify the combo, such that in the case where at least two radio access bearer services already active within the network do not utilize the resources that have been allocated to them in an optimal manner, said prioritization step is desired to reduce the resources allocated to these bearer services, in an order defined by the priority level associated with each of said bearer services, to provide means for fully utilizing all bandwidth/slots as based on utilization and reallocating based on a user's priority.

Art Unit: 2617

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lun Yi Lao can be reached on 571-272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen M. D'Agosta/
Primary Examiner, Art Unit 2617